were limited to elevations of the erythrocyte sedimentation rate in 2 patients and elevations of serum transaminases in 1 patient.

Conclusions

Topical application of vitamin A acid offers significant therapeutic benefits, especially for acne patients who have been unresponsive to more conservative therapy. Treatment should continue until the patient has been lesion-free for several months. Continued application at lower dosage or less frequent intervals may prevent future exacerbation of the condition. Side effects involving the skin and mucous membranes are likely, but they usually do not necessitate discontinuation of therapy. The most useful dose form appears to be the 0.05 percent cream, which produces a good therapeutic response and has the greatest patient acceptability. Patients should be warned to expect temporary exacerbation of symptoms during the first few weeks of therapy. Since the retinoids as a group are known teratogens, female patients using any vitamin A preparation in therapeutic doses should use appropriate measures to prevent conception.

Recent clinical trials with 13-*cis*-retinoic acid have shown that synthetic derivatives of vitamin A may be even more beneficial than naturally occurring isomers. Future clinical trials may eventually result in the introduction of 13-*cis*-retinoic acid and other derivatives that will combine maximum therapeutic response with greater patient acceptability and safety (*23*).

REFERENCES

1. Rees RB: in Krupp MA, Chatton MJ (eds): Current Medical Diagnosis and Treatment. Los Altos, CA, Lange Medical, 1979, p 52.
2. Leyden JJ, Kligman AM: Acne vulgaris: New concepts in pathogenesis and treatment. Drugs 12:292, 1976.
3. Peck GL, Olsen TG, Yoder FW, et al: Prolonged remissions of cystic and conglobate acne with 13-*cis*-retinoic acid. N Engl J Med 300:329, 1979.
4. Heel RC, Brogden RN, Speight TM, et al: Vitamin A acid: A review of its pharmacological properties and therapeutic use in the topical treatment of acne vulgaris. Drugs 14:401, 1977.
5. Ad Hoc Committee on the Use of Antibiotics in Dermatology: Systemic antibiotics for the treatment of acne vulgaris. Arch Dermatol 111:1630, 1975.
6. Harvey SC: in Goodman LS, Gilman A (eds): The Pharmacological Basis of Therapeutics (ed 5). New York, Macmillan, 1975, p 998.
7. Mandel HG: in Goodman LS, Gilman A (eds): The Pharmacological Basis of Therapeutics (ed 5). New York, Macmillan, 1975, p 1570.
8. Brode E, Kuhne J, Kummer H, et al: Zur Pharmacokinetic von Tretinoin nock lokaler Application. Arzneim Forsch 24:1188, 1974.
9. Logan WS: Vitamin A and keratinization. Arch Dermatol 105:748, 1972.
10. Plewig G, Braun-Falco D: Kinetics of epidermis and adnexa following vitamin A acid in the human. Acta Venereol [Suppl] (Stockh) 55 (Suppl 74):87, 1975.
11. Mills OH, Marples RR, Kligman AM: Acne vulgaris. Oral therapy with tetracyclines and topical therapy with vitamin A. Arch Dermatol 106:200, 1972.
12. Kaidbey KH, Kligman AM: Effectiveness of peeling agents on experimental comedones. Cutis 16:53, 1975.
13. Mills OH, Leyden JJ, Kligman AM: Acne vulgaris. Oral therapy with tetracycline and topical therapy with vitamin A. Arch Dermatol 108:381, 1973.
14. Gunther S, Freitag F: Therapeutic value and side effects of retinoic (vitamin A) acid on human patients and animal experimental investigations on rats. Dermatol Monatsschr 161:137, 1975.
15. Simpson JR, Trusted HW, Watts AB, et al: Clinical experience with 0.025% retinoic acid solution (Retin A) in the topical treatment of acne. Curr Med Res Opin 1:485, 1973.
16. Handojo I: Various concentrations of retinoic acid in the treatment of acne vulgaris. Mod Med Asia 13:5, 1977.
17. Eckstein E, Steiner H, Wesenbeg W: Zur external Behandlung der Akne mit Tretinoin. Arzneim Forsch 24:1205, 1974.
18. Montes LF: Acne vulgaris: Treatment with topical benzoyl peroxide acetone gel. Cutis 19:681, 1977.
19. Kligman AM, Fulton JE, Plewig G: Topical vitamin A in acne vulgaris. Arch Dermatol 99:469, 1969.
20. Wheatley D: Retinoic acid in the treatment of acne. A report from the general practitioner research group. Practitioner 213:387, 1974.
21. Christiansen JV, Gadborg E, Ludvigsen K, et al: Topical vitamin A acid (Airol®) and systemic oxytetracycline in the treatment of acne vulgaris. Dermatologica 149:121, 1974.
22. Sporn MB, Dunlop NM, Newton DL, et al: Prevention of chemical carcinogenesis by vitamin A and its synthetic analog (retinoid). Fed Proc 35:1332, 1976.
23. 13-*cis*-Retinoic acid in severe acne. N Engl J Med 300:359, 1979 (editorial).

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